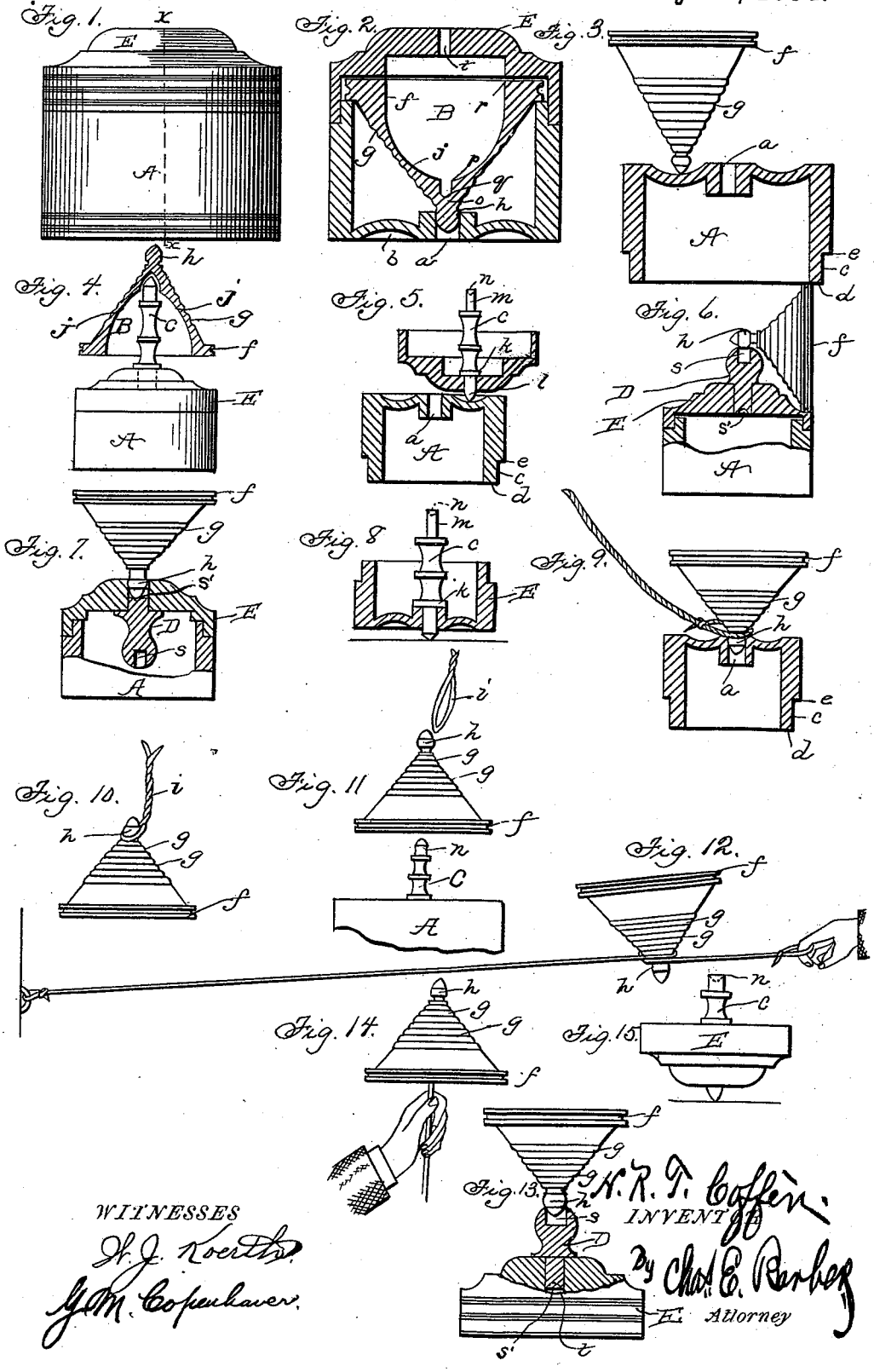
(No Model.)

# H. R. T. COFFIN.

## TOP.

No. 523,513. Patented July 24, 1894.




WITNESSES

H. J. Koerth.

J. M. Copenhaver.

H. R. T. Coffin.
INVENTOR

By Chas. E. Burbeg
Attorney

# UNITED STATES PATENT OFFICE.

HARVEY R. T. COFFIN, OF GLENS FALLS, NEW YORK.

## TOP.

SPECIFICATION forming part of Letters Patent No. 523,513, dated July 24, 1894.

Application filed May 7, 1894. Serial No. 510,352. (No model.)

*To all whom it may concern:*

Be it known that I, HARVEY R. T. COFFIN, a citizen of the United States, residing at Glens Falls, in the county of Warren and State of New York, have invented certain new and useful Improvements in Tops, of which the following is so full, clear and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my invention, showing it put together for shipment. Fig. 2 is a section on the line *x*—*x*, of Fig. 1. Fig. 3 is an elevation of my invention showing the same as it appears and operates as a top. Figs. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 show other forms in which the invention may be operated, as will be hereinafter described.

The object of my invention is to provide an improved and compact device which may be used in the greatest variety of ways as an article of practical utility or source of amusement and wholesome recreation.

Another object of my invention is to provide a top which can be packed for shipment in a compact form with all of the parts protected by the casing in such a manner that none of the parts can be injured by rough handling or varying degrees of temperature and humidity, and at the same time making the casing a part of the invention which serves the double purpose of a packing casing and a part of the device itself.

The accompanying drawings show the device in the operative position, and in every figure, A designates a case which is virtually a cup having a central opening *a* through its bottom. On the outside of the bottom I provide a circular groove *b*, in which the top B may be spun when it is used as a top. The upper outer periphery of the cup A is cut away at *c* to form a flange *d* and a shoulder *e* to support the cover E and hold it securely in position.

The opening *a* through the bottom serves the double purpose of a seat for the head *h* of the conical top B, and a receptacle and holder for the spindle C and the post D as will be hereinafter explained.

The conical top B consists of a cone shaped cup provided with a rim *f*, and a series of grooves *g g* between the rim *f* and the head *h*. Between the head *h*, and the grooves *g*, *g*, I provide a recess or depressed ring all around the top to prevent the string *i*, from slipping off when it is being wound around the top before spinning it and it serves to hold the top in position on the top of the case after it has stopped spinning in the recess in the post D, as shown in Fig. 6.

The grooves *g*, *g*, serve as a winding surface for the string *i*. Between the rim *f* and the reduced end of the top, I make the top very thin as at *j*, to get the greater part of the weight away from the center. The inside of the apex of this conical top ends in a point, designated by the letter *o*, but the plane of the inclined inner wall of the top ends abruptly at *p*, and from the point *p* to the point *q*, the inner wall is vertical or substantially in the true plane of the axis. This is a mechanical necessity for were the plane of the inner surface of the top uniform, and continuous from the extreme of the perimeter at *r* to the point *o*, the conical top B would fly off from the spindle when spun on the spindle, in accordance with the laws of physics.

The spindle C is reduced at both end portions and is provided with a shoulder *k*, at each end. The reduced end designated by the letter *l*, is made in the shape of a projecting point, whereas the opposite end, designated by the letter *m*, is hollowed out at *n*. The end portion *m* is of a less diameter than the end portion *l*. The purpose of this difference is to secure vibration of the spindle when it is set up in position (as shown for instance, in Fig. 4) for spinning the conical cup on the pointed end of the spindle.

If the spindle at *m* were made to fit the hole *a* in the case A, the top would not stay on the spindle when spun, but it would fly off. Another reason for making the ends of different diameters is to secure a snug fit of the end *l* in the hole in the cover when it is inserted as shown in Fig. 5, which shows the cover in position as a spinning top.

In Fig. 6, I show how the top B stops after it has been spun in the recess *s*, in the open end of the post D. It will be seen that the cover E has an opening *t*, through the center at the top and in this opening I can place

either the spindle C or the post D as shown in the various figures or the post D may be put into the hole and the end *m* of the spindle C may be inserted into the opening *s* in the post, D.

In Fig. 7, I show the top spinning in the recess *s'* in the post D.

The top B may be made of any suitable material.

The case and cover may be made of any suitable material and I do not limit myself to any material in the manufacture of the complete article.

The string used for spinning the top is designated by the letter *i*.

Having described the objects, and construction of my invention, I will now proceed to describe its operation, as follows: First, after having tied the knot in each end of the string, wind the string around the top, and hold the top as shown in Fig. 14. Then give the string a gentle downward and outward pull, holding the spiudle in the left hand and the top will spin for many minutes on the spindle. When it is desired to spin the top as shown in Fig. 3, wind the cord around it as before and place the top in the position shown in Fig. 3, hold a pencil or spindle in the cup to steady it and pull out gently and rapidly on the free end of the string and the top will spin as shown in Fig. 3.

When it is desired to make the top spin on a string, fasten a soft string or piece of thread to something near the floor, then step back to the free end of the string, and spin the top on the floor or table, then make a single loop in the string, slip it under the head of the top and up around the neck between the head and body portion of the top and raise up on the free end of the string and the top will sail the whole length of the string.

To make the top turn over in mid-air, spin it on the table as shown in Fig. 3, make a loop in a soft string large enough to go around a hen's egg, put it under and around the spot where the top is spun, raise it up and take the top with it, and hold it till it turns over and unwinds and it will drop off on the previously set spindle and spin on the spindle, as shown in Fig. 4.

The spindle is hollowed out at *n* to enable one skilled in the art to spin the top in this recess and the post is recessed at *s'* for the same purpose.

What I desire to secure by Letters Patent, and what, therefore, I claim, is—

1. The herein described conical top, having a rim at its open end and having a portion of its wall between the base and apex made of a thickness less than the thickness of the wall of the top at the base and apex, substantially as described.

2. The herein described conical top having a head and a reduced grooved neck portion between the head and the main body portion of the top; in combination with a surface or rest for the rim of the top and a projecting pin having a recess or cavity, the surrounding wall of which projects into and engages with the neck of the conical top and holds it after it has been spun and has stopped spinning in the said recess, substantially as described.

3. A perforated case and a conical top in combination with an intermediate piece having dissimilar ends, one of which fits snugly in a perforation in the case, substantially as described.

Signed at New York, N. Y., this 5th day of May, A. D. 1894.

HARVEY R. T. COFFIN.

Witnesses:

GEO. C. COFFIN,

CHAS. E. BARBER.